MODIS Technical Team Meeting
Thursday, April 3, 2003
Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Bruce Guenther, Dorothy Hall, Bob Barnes, Barbara Conboy, Chris Justice, Eric Vermote, Wayne Esaias, Skip Reber, Bill Barnes, Michael King, Steve Kempler, Robert Wolfe, Shaida Johnston, and Jack Xiong, with Yolanda Harvey taking the minutes.

1.0 Upcoming events

- Ocean Color Meeting, April 15-17, 2003, Miami, Florida, USA.
- IGARSS 2003, July 21-25, 2003, Toulouse, France (abstracts deadline past). http://www.igarss03.com/
- 10th International Symposium on Remote Sensing by The International Society for Optical Engineering (SPIE). September 8-12, 2003, Barcelona, Spain (abstracts deadline past). http://www.spie.org/info/rs

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reported on the data product status chart that is maintained by Michael King. He asked Chris Justice and Wayne Esaias to check it for accuracy with regard to the Land and Oceans products.

Bob Barnes reported that SeaWiFS and MODIS are preparing to do a Moon measurement, and though they are for the most part prepared, they are still working out some wavelength problems. The center wavelengths and bandwidths of SeaWiFS and MODIS are not the same. Also, SeaWiFS must take more scans of the surface to cover what MODIS does in one, which means that SeaWiFS will be over-sampling compared to MODIS. This has to be corrected for a direct comparison, and Hugh Kieffer is working on a lunar model that will provide a solution. Also, an analysis is in the works for the April 14th Deep Space Maneuver (DSM).

2.2 Instrument Status

Xiong reported that both instruments are running well.

2.2.1 Aqua MODIS

Xiong reported that there are some LUT concerns for an Aqua reprocessing, but working them out can be postponed. Salomonson said that he is estimating that an Aqua reprocessing won't happen until late 2003 at the earliest; Johnston clarified that it won't happen at least until after October 2003, and she is currently working on the sequence of events that will lead to the reprocessing.

Xiong reported that they've written a new command macro to solve the SRCA lamp issue, and all that remains is to upload it.

Salomonson asked about the Terra spacecraft "jitter" problem observed during the last DSM and whether someone was collecting data to figure out its source. Xiong said that

he attended the latest deep space maneuver debriefing and discussed the issue with Robert Wolfe. He concluded that the problem is occurring in the yaw/pitch direction, but that it is small enough that MODIS isn't affected. Salomonson said that the principal concern is associated with the Moon scan, which would require one CERES instrument (of the two) not to scan because the jitter only seems to happen when both are scanning. Xiong said that it is still being investigated and that the MODIS moon view should finish before CERES instrument could cause the jitter. However, MISR and ASTER might be impacted by the jitters.

2.2.2 Terra MODIS

Xiong reported that the flight operations group has finished reviewing the data from the first DSM; almost all the teams got good data, though there were a couple of flags at the spacecraft level. Overall this maneuver was successful, and the second (on April 14th, 2003) will proceed as planned. Esaias asked about the absolute rvs, and Xiong said that they currently are using pre-launch data from mirror-side one, which are normalized, not absolute. Guenther mentioned that the NPL witness sample-measurements match well to the Aqua rvs data.

This prompted Salomonson say that we need to continue to examine the basis for the Aqua DSM and advantages. The Aqua DSM will probably not happen until late in the year. He said that Paul Ondrus said that preparations for an Aqua DSM require a lot more preparation before it can happen and they aren't ready yet because there are still orbit adjustment maneuvers to perform first. Bill Barnes suggested that we might want to wait until the same point in the Aqua mission as we did with Terra to do a DSM. Esaias observed that the initial Terra results for some bands appear very close to at-launch, which would imply that there has been little change in orbit from pre-launch. Xiong agreed, and said that change was seen on Terra, but we don't know that for sure, because it's based on the derived rvs data. Bill Barnes suggested that the team discuss when and if to have an Aqua DSM.

2.3 DAAC

Kempler reported that Terra processing has slowed down because of several minor problems with ingest, to 3.87x. This isn't a big deal, though. Aqua processing has proceeded nominally at 1x.

Salomonson asked about the GBAD problem, noting that Kempler was supposed to have written a program/script to solve the problem. Kempler said it is still being examined.

Kempler said to Esaias that the Goddard DAAC is okay with having Ocean's L1A and B produced at MODAPS in the effort to meet reprocessing deadlines. Esaias said that is good news, and there are still other of issues to consider, including the throughput tests planned by MODAPS and the GDAAC. They don't yet have a final plan.

2.4 MODAPS

Wolfe reported that, as discussed previously, the jitter during the DSM is primarily on yaw, which doesn't impact MODIS. MODIS' pixel field of view is 293 arc-seconds for the 1 km resolution bands, so the effect is only a very small fraction of a MODIS pixel. Also, since we expect to see the moon at a small scan angle, the effect from yaw jitter would be very small, since is roughly proportional to the scan angle. Finally, MODIS sees the

moon early in the maneuver, well before CERES starts the dual-scan mode. MISR is the worst case because it is the last instrument on the spacecraft to see the Moon and may be significantly affected by the 2 arc-seconds per second movement.

2.5 Land Discipline

Justice reported that he is still writing proposals, and suggested holding a team meeting when everyone's proposals are done to get everyone back up to speed and on the same page. Salomonson said he would get on that including the possibility of another Science Team telecon.

2.6 Oceans Discipline

Esaias reported that he, too, is working on proposals as well as discussing error assessments in the Ocean Color product. He reported that Watson Gregg will be sending out a new L3 data matchup comparison using the classical rms of log chlorophyll. Chlorophyll comparisons show that SeaWiFS and MODIS are still very similar and both are meeting specifications (rms uncertainty <30% for MODIS). He also reported that some people at Langley would like to do an Arctic cruise next summer using one of the Miami M-AERI instruments, and he forwarded the request to Peter Minnett for consideration.

2.7 Atmospheres Discipline

King reported that he received a draft of the Data Products Handbook that includes all recent changes. He sent it to Paul Hubanks, and it is close to being ready for print.

2.8 Cryosphere

Hall reported that the National Ice Center (NIC) would like our ice products for operational purposes, meaning that they would have to be produced in less than 2 days. Salomonson wondered whether NOAA's bent-pipe would help this effort, and Justice suggested talking to Jacques Descloitres about it. Hall said that the NIC wants swath products, and Justice said that if they help support the effort, it should be possible. He suggested a setup similar to the one with the Forest Service.

3.0 Action Items

3.1 New Action Items

None.

3.2 Old Action Items

3.2.1 King and Kempler to work together on getting ESDTs for the new Atmospheres L2 data product.
Status: Open.

3.2.2 Kempler to coordinate with Oceans group on creating documentation for the DAAC on the new Oceans L1A data subsets.
Status: Open.

3.2.3 Wolfe to contact Herring about the shopping cart feature for the Earth Observatory website.
Status: Open.

3.2.4 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.
Status: Open.

3.2.5 Johnston to create possible scenarios of when to reprocess Aqua and start Terra Collection 5.
Status: Open.

3.2.6 Conboy to poll Science Team for MODIS Science Team Meeting dates in August/September 2003. Responses due to Conboy by April 7, 2003.
Status: Open.